



UNITED STATES PATENT AND TRADEMARK OFFICE

clm

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,818	01/31/2005	Karl Lubitz	4001-1197	4863
466 7590 12/22/2006 YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER BUDD, MARK OSBORNE	
			ART UNIT	PAPER NUMBER
			2834	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/22/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/522,818

Applicant(s)

LUBITZ ET AL.

Examiner

Mark Budd

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1-31-05</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 2834

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-10 and 13-18 are rejected under 35 USC 102 (a) as being anticipated by Cotton(654). Looking at, for example, figure 14B, Cotton teaches a piezoelectric actuator comprising, at least one piezoelectric element #419 which is provided with an appropriate electrode on either surface, at least one pretension device for introduction of force into a volume of the piezoelectric layer by means of at least one force introduction surface #454, a force introduction surface is smaller than the surface section of the piezoelectric layer and the volume is a partial volume of the piezoelectric layer (force is not introduced into the volume of piezoelectric material at the extreme upper edge at the end periphery). The edges of #440 that contact the upper surface of the piezoelectric element act as knife edges (point-like or stripes) that introduce force into the upper surface of the piezoelectric element near its ends. The shaft #454 is in the shape of a cylinder which introduces force on to the lower surface of the piezoelectric element at its center, offset from the upper force introduction surfaces. Prestress is provided by spring #456. Note that figure 18 teaches that multiple piezoelectric layers can be used. Regarding claims 15-18 it is noted that the method of manufacturing is not germane to the patentability of the article claimed. The patentability of a device is determined on its own merits and not on the method by which it is made. Thus, the method of manufacturing "limitations" in these claims have not been given patentable consideration. It is noted that if these claims were written as actual method claims, rather than being dependent from a device claim, that restriction would be required between the two inventive groups.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 USC 103 (a) as being unpatentable over Cotton(654). As described above, cotton teaches the basic structure of the piezoelectric actuator. Cotton does not explicitly teach the claim thickness for the piezoelectric element. However, it has long been held that optimization of a device for a particular

Art Unit: 2834

application is within the skill expected of the routineer. Thus to select specific dimensions for the structure of Cotton would have been obvious to one of ordinary skill in the art.

Claim 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Further cited of interest are Bryant (figure 1, Nakamura (figures 1, 2 and 4), Kolm (figures 1 and 3 and Cotton (005) (figure 1).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Budd whose telephone number is 571-272-2019. The examiner can normally be reached on Monday-Thursday from 6 a.m. to 4 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ^ Schuberg, can be reached on 571-272-20 44. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/522,818
Art Unit: 2834

Page 4


Mark Budd
Primary Examiner
Art Unit 2834